CONGRESS FOR THE NEW URBANISM

Emergency Response & Street Design Initiative

November 18, 2009: CMAP

CNU Emergency Response & Street Design Initiative


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AUSTIN
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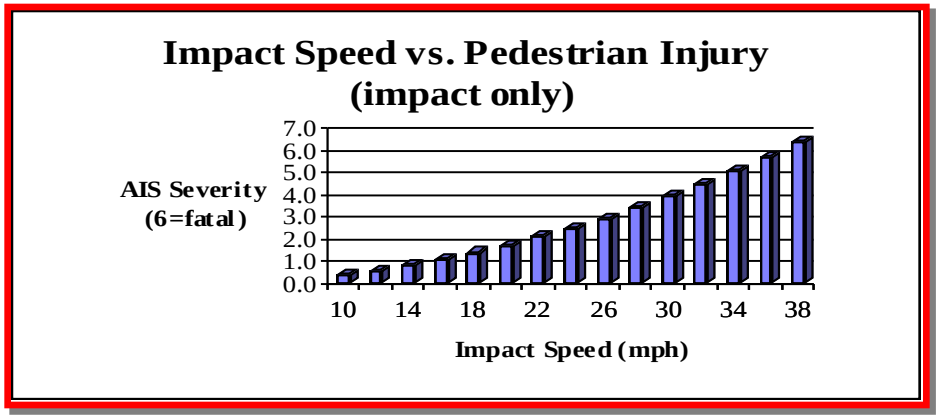
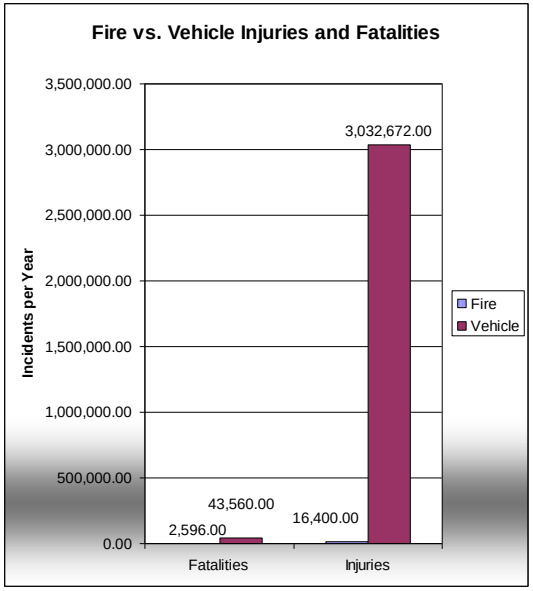
CNU Emergency Response & Street Design Initiative

What is the Initiative?

- Making less than 20 foot clear legal through code changes
- Building an Alliance with Emergency Responders
- Making the Public Health Case for Narrower Connected Street Networks


Impact Speed vs. Pedestrian Injury
(impact only)
AIS Severity
(6=fatal)
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
10
14
18
22
26
30
34
38
Impact Speed (mph)


Fire vs. Vehicle Injuries and Fatalities
Incidents per Year
3,500,000.00
3,000,000.00
2,500,000.00
2,000,000.00
1,500,000.00
1,000,000.00
500,000.00
0.00
2,596.00
43,560.00
16,400.00
3,032,672.00
Fatalities
Injuries
Fire
Vehicle


STOP
BROADWAY

Narrower streets are safer streets, but Fire operations must be accommodated

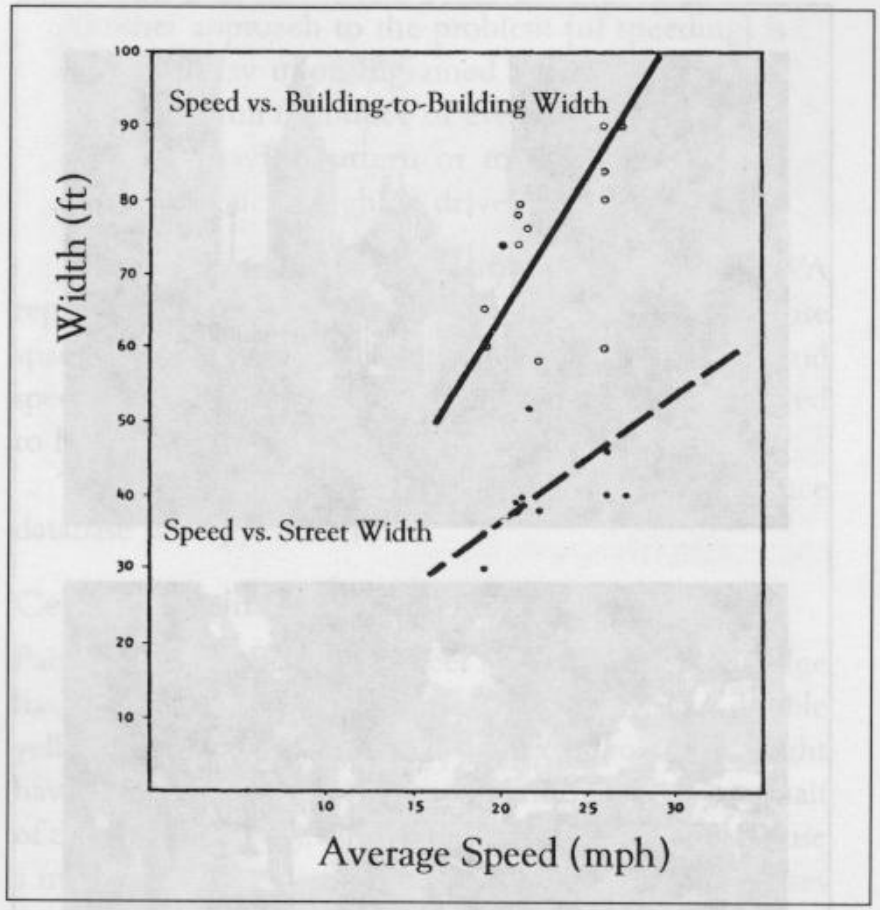
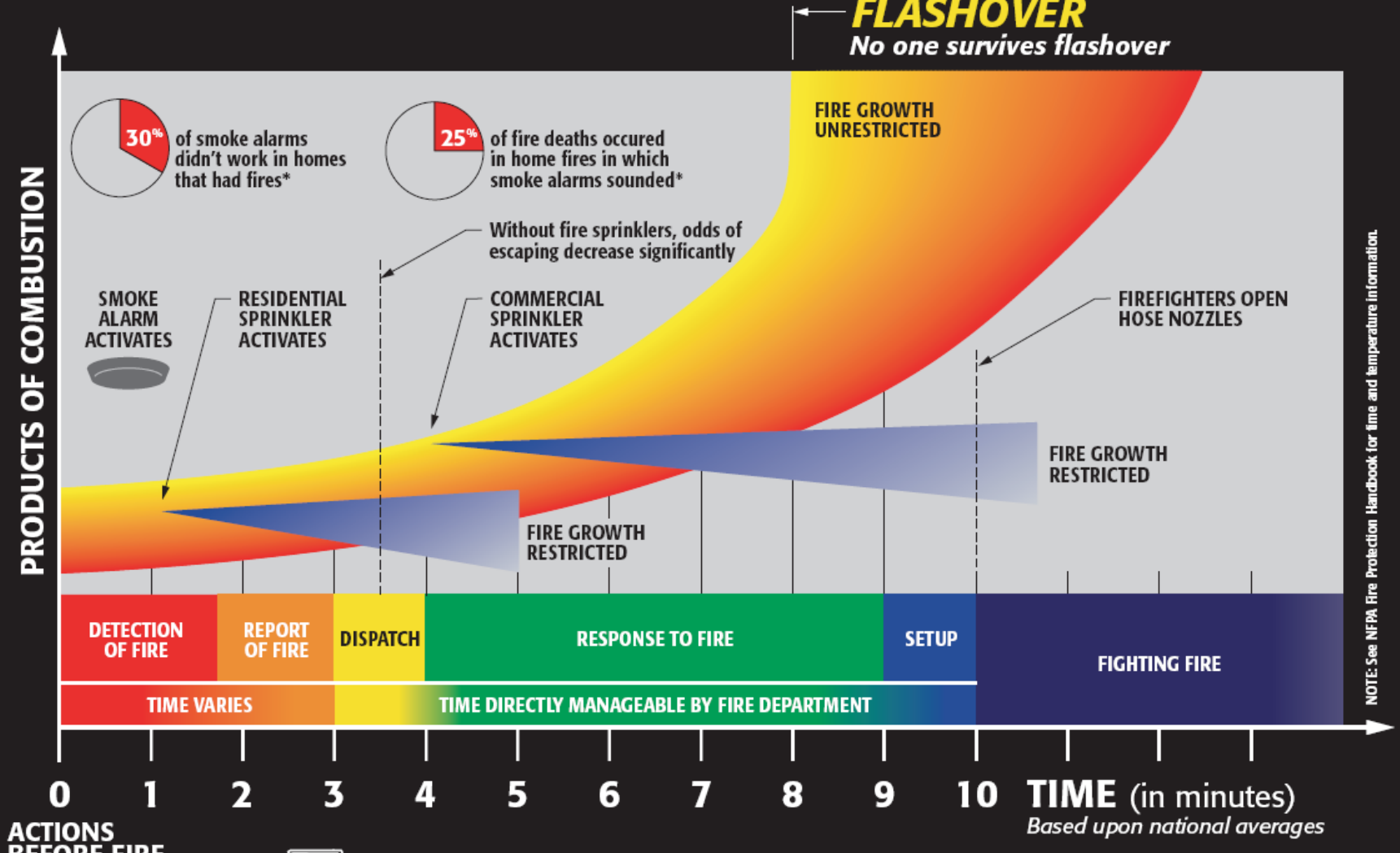


Figure 5.51. Speed versus Pavement Width and Pavement Width Plus Setbacks.

Source: D.T. Smith and D. Appleyard, *Improving the Residential Street Environment—Final Report,* Federal Highway Administration, Washington, DC, 1981, p. 127.

TIME vs. PRODUCTS of COMBUSTION



ACTIONS BEFORE FIRE

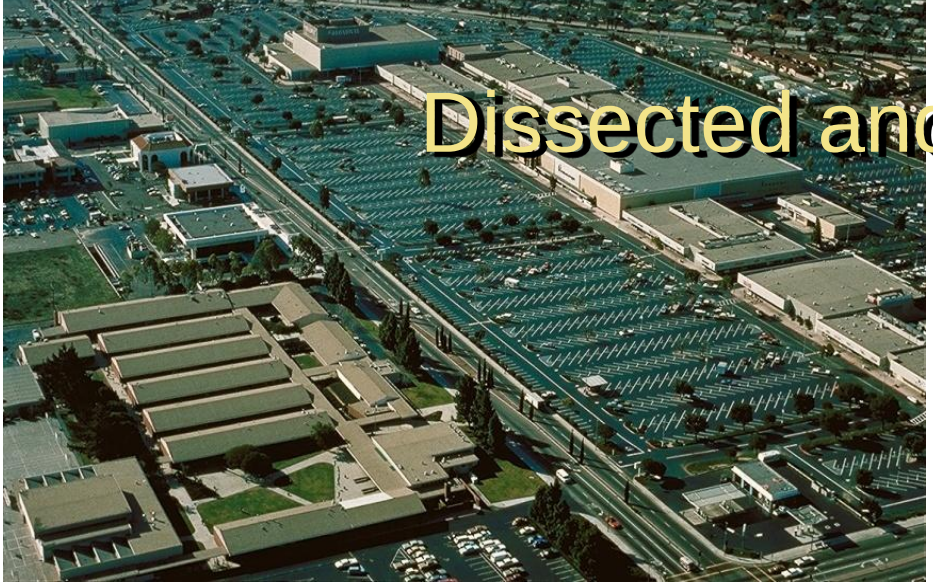
1) TEST SMOKE ALARMS
2) CONDUCT FIRE ESCAPE DRILLS

*U.S. Experience With Smoke Alarms and Other Fire Alarms. NFPA. September 2001.

Northern Illinois Fire Sprinkler Advisory Board
FireSprinklerAssoc.org

ORLAND PROFESSIONAL FIREFIGHTERS

Dissected and Disconnected



Connected and Integrated

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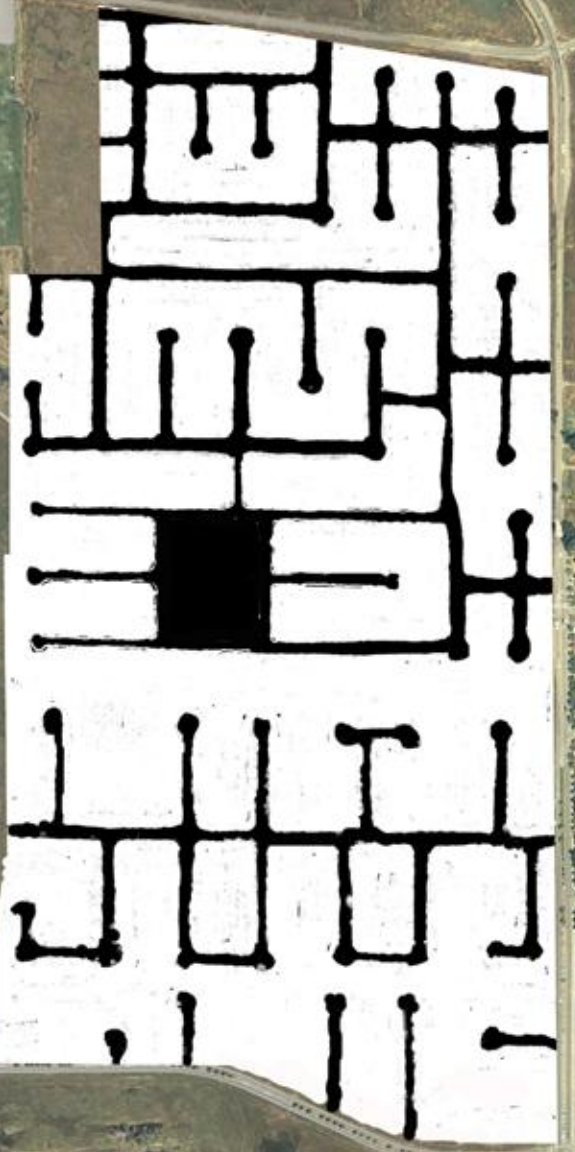
Comparing Street Connectivity

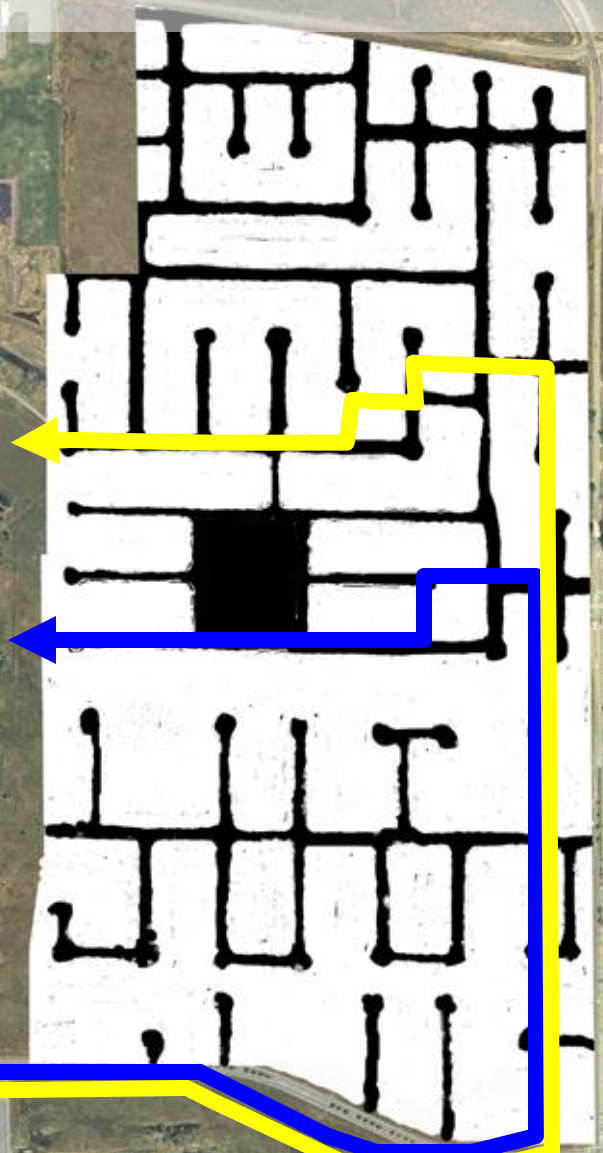
An Existing Chico Subdivision



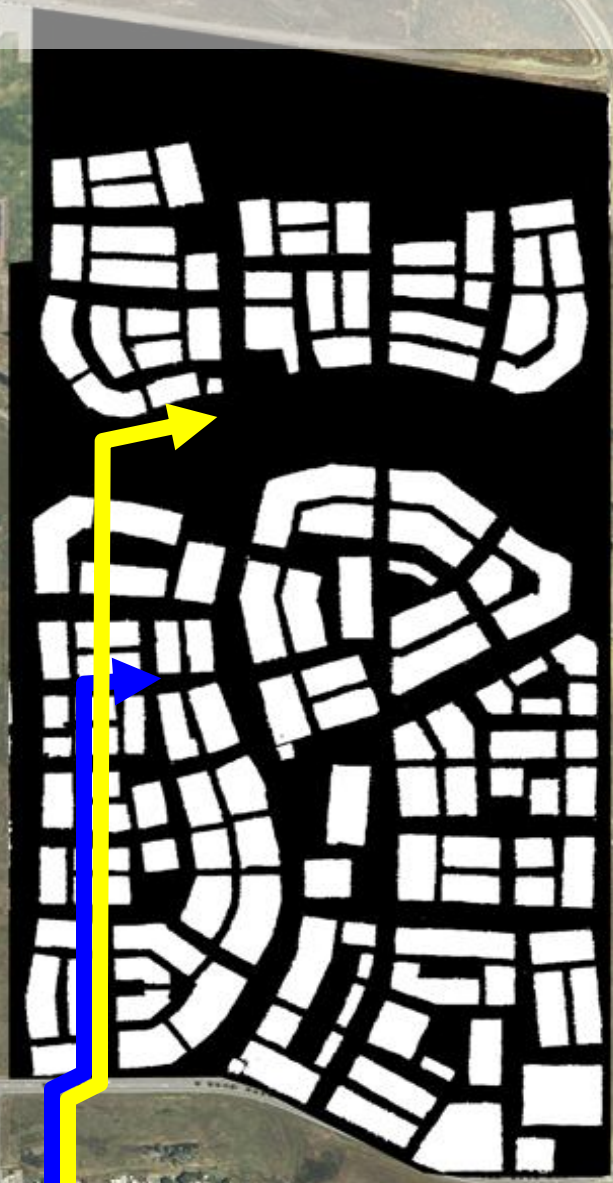
Comparing Street Connectivity

Proposed Plan

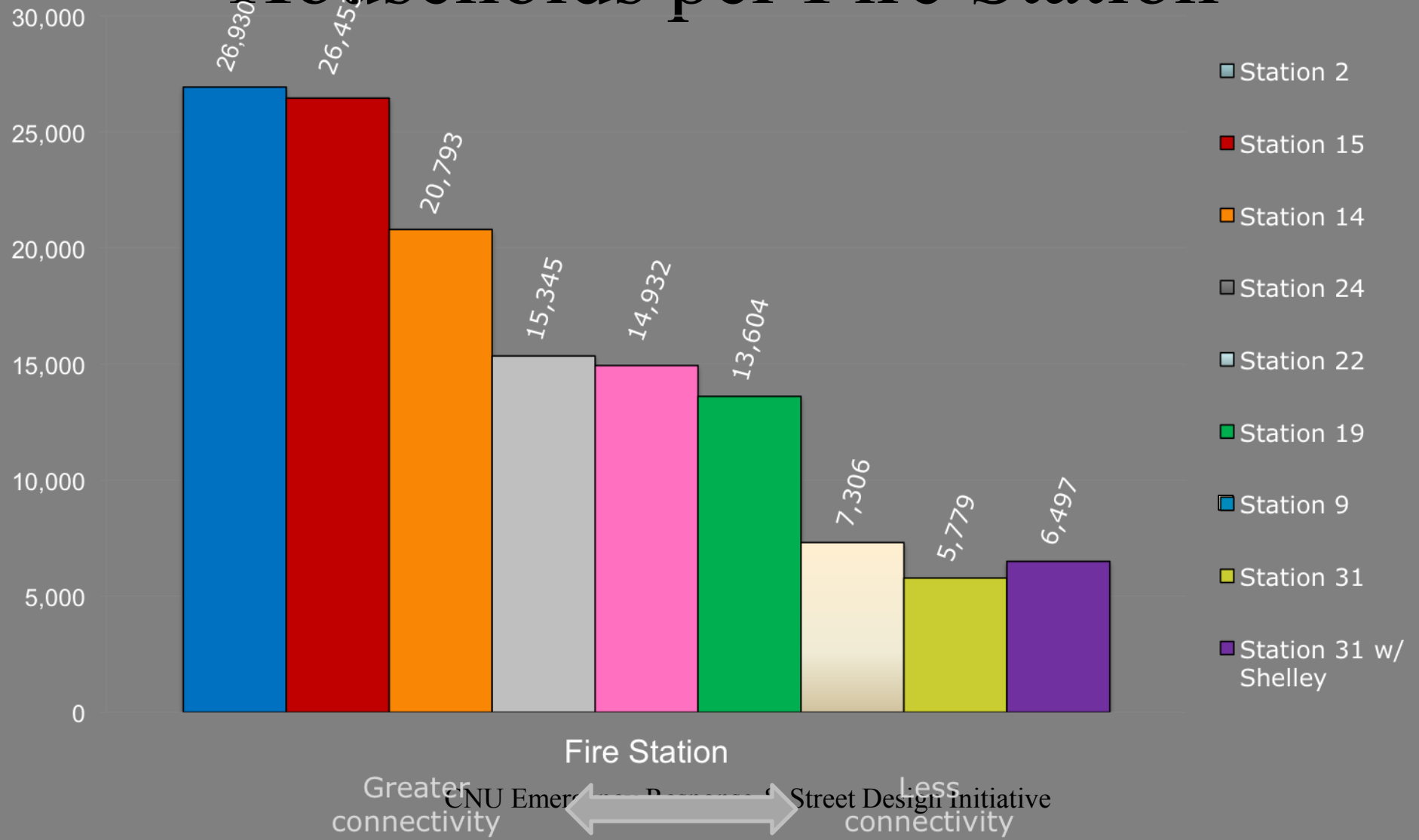
Long, slow routes



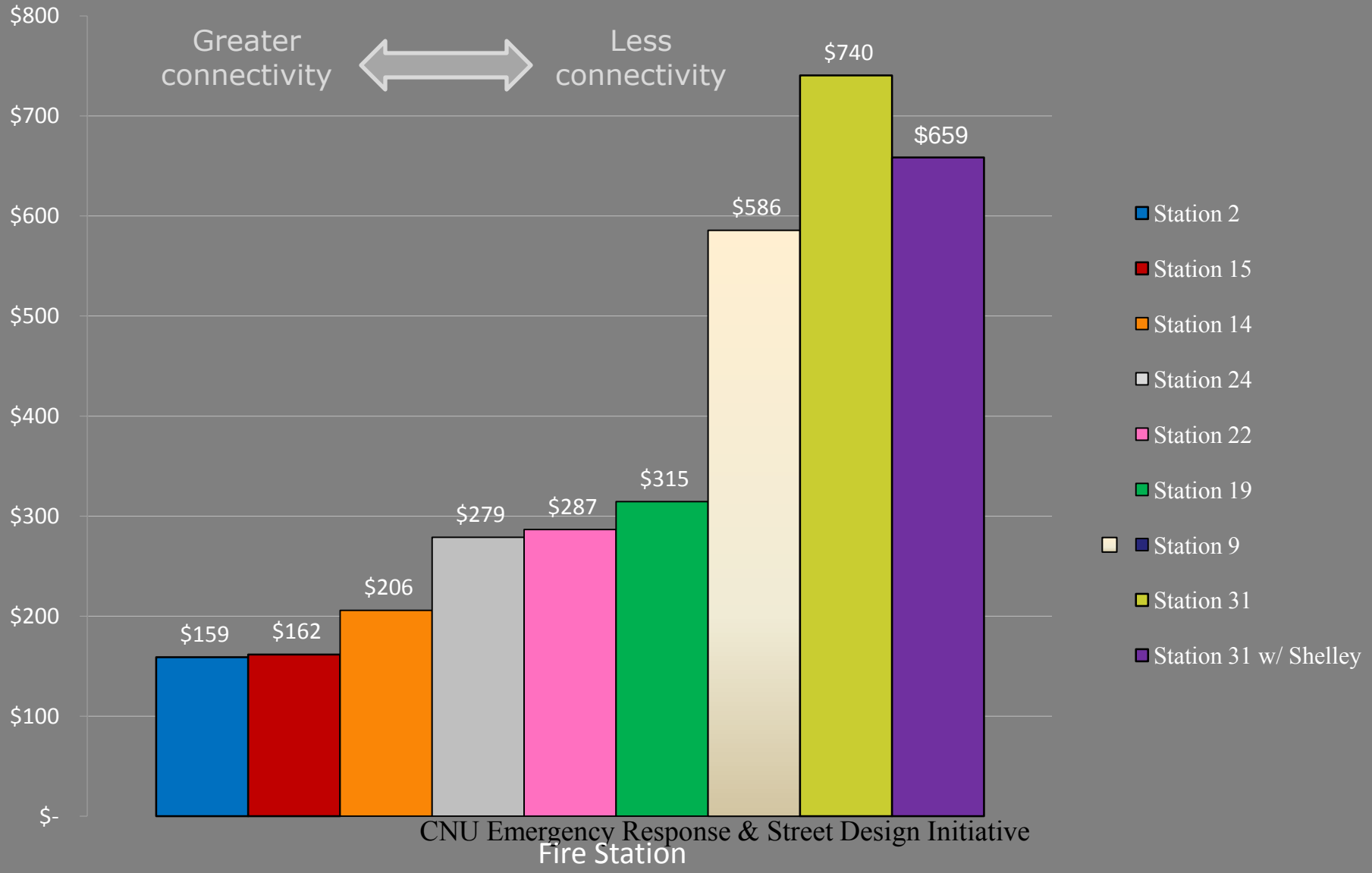
Short, direct routes



Households per Fire Station



Annualized Per-Capita Life Cycle Costs (based on 2-apparatus station)



Average Citywide Response Time and Connectivity Ratio

Conclusions

- Degree of connectivity directly affects Fire Station service area size
  - Higher connectivity ratios = larger service areas
- Larger service area distributes fixed costs over more households
- Fire station costs are fixed
- Good connectivity = Financial efficiency

Response time = average speed * response distance

Response time = average speed * response distance

To improve response times

Option 1: Increase speeds

Option 2: Reduce response distances

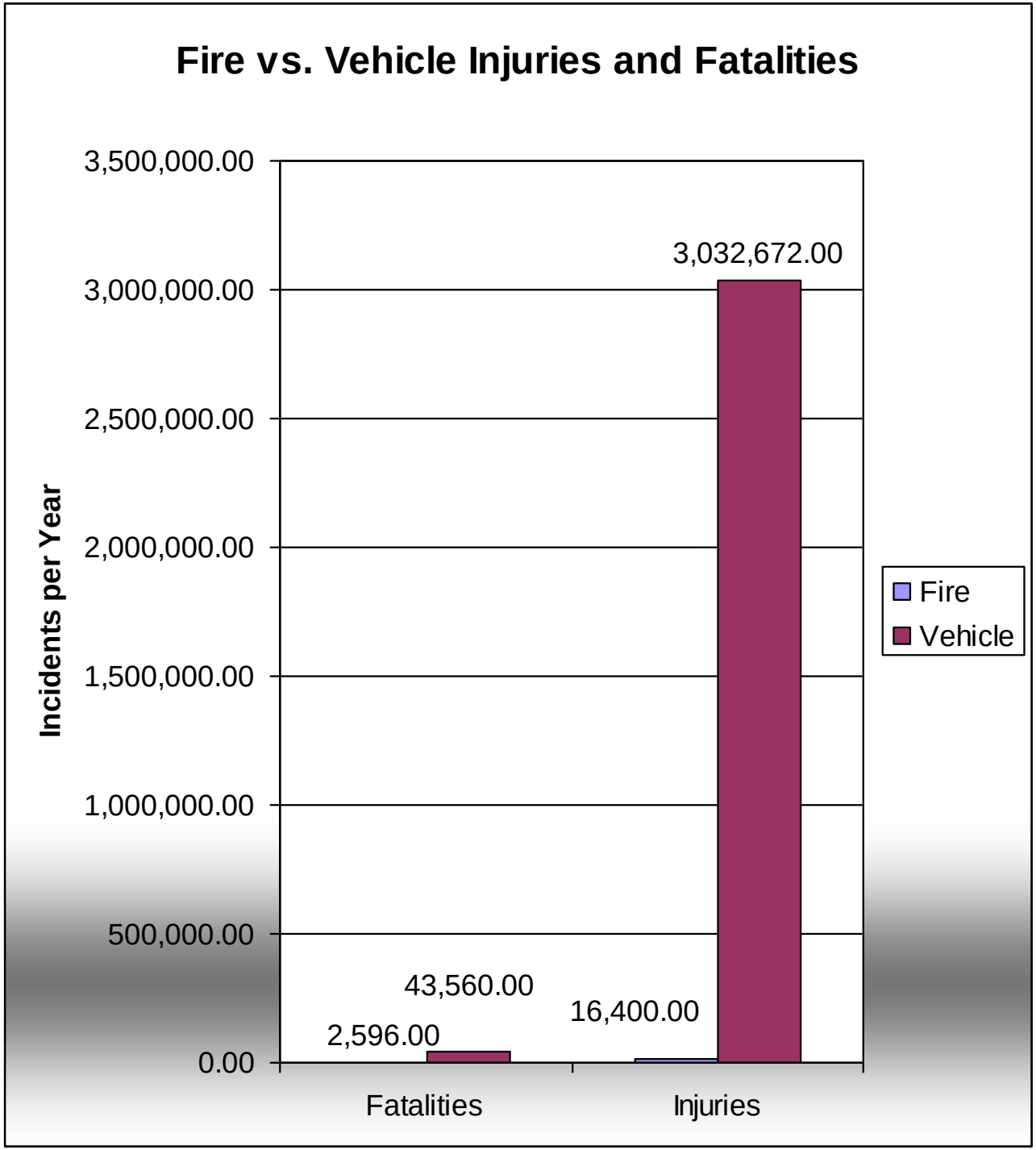
- Keep homes closer to existing firehouses
- Design shorter routes from firehouse to homes

ICC Baltimore code hearings

- **CNU fire code amendment**: Fire code official may accept less than 20 feet clear, considering connectivity, presence of sprinklers, and adequate turning radii. **Disapproved**.
- **CNU Appendix K**: Optional for local communities, provides fire code officials guidance on street design for public safety using connected networks of narrower streets. **Approved.**
- **F17**: "Traffic calming devices are prohibited unless approved by the *fire code official*." This includes street alignment, barriers "and other physical measures intended to reduce traffic and cut-through volumes, and slow vehicle speeds." **Approved.**

ICC: What's next?

- Support CNU code proposals and oppose F17 with public comments through Feb. 8, 2010: www.iccsafe.org/cs/codes/Pages/publicforms.aspx
- Final Action Hearings, May 14-23, 2010, Dallas, Texas.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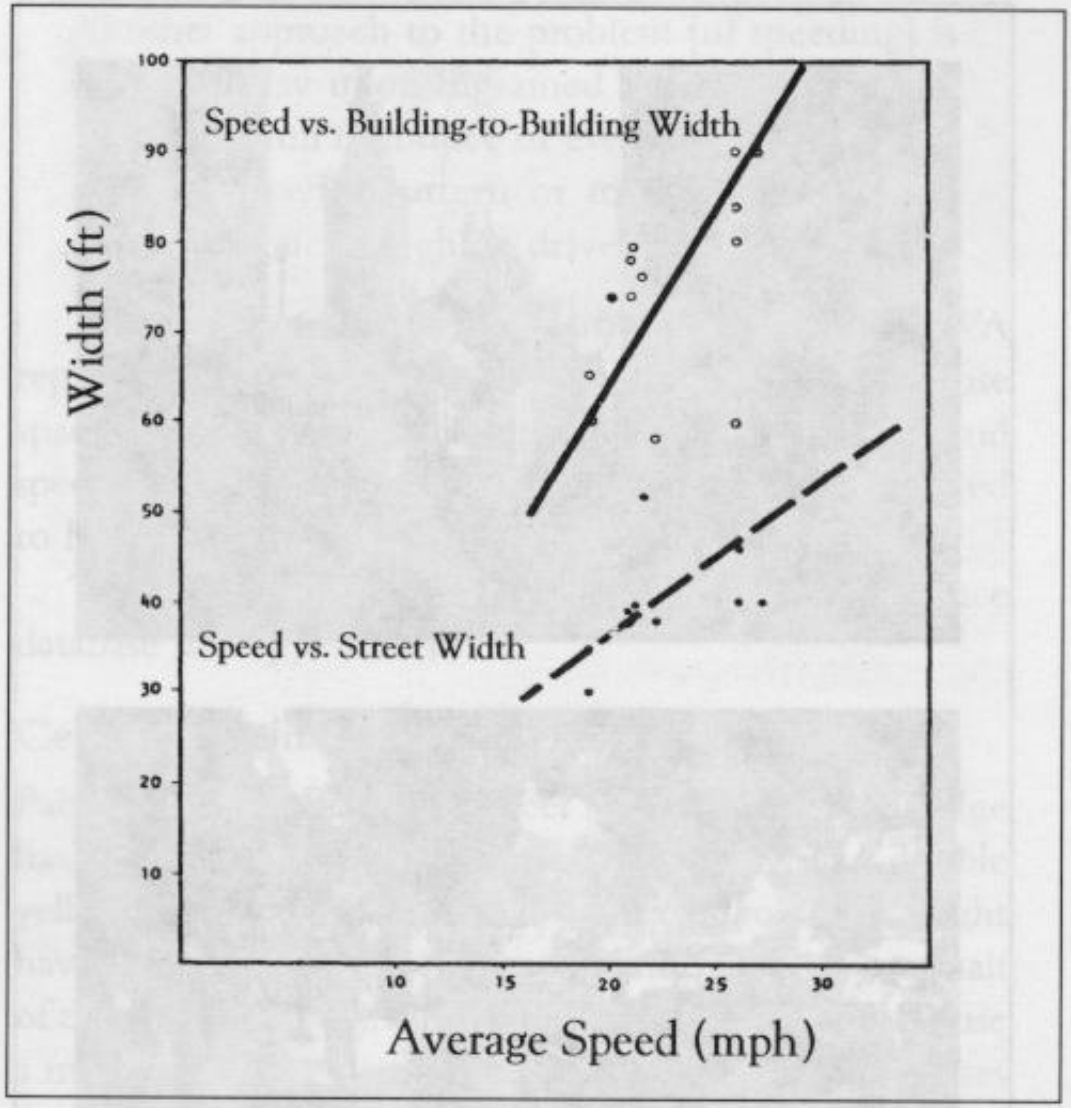

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www.cnu.org/cnu18

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Next Steps: CNU & CMAP

- Data
- Resources
- Other Emergency Responder Contacts

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